

PF-2894

Amendment dated 04/18/2005

09/983,041

Reply to office action mailed 01/26/2005

01450013aa

APPENDIX A

VERIFICATION OF THE TRANSLATION

I, the below-named Chartered Patent Attorney of Tokyo Japan having an office at an address stated below, hereby declare that :

I am knowledgeable in the English and Japanese languages, and I believe that the attached English translation of the Japanese Patent Application No. 2000-321709 filed on October 20, 2000 is a true and complete translation of said application.

I also hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date : April 18, 2005



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(English Translation)

PATENT OFFICE
JAPANESE GOVERNMENT

This is to certify that the annexed is a true copy of the following application as filed with this Office.

Date of Application : October 20, 2000

Application Number : Japanese Patent Application No. 2000-321709

Applicant : NEC Corporation

August 31, 2001

Commissioner,
Patent Office

Kozo OIKAWA

[Kind of Document] Application for Patent
[Reference Number] 53209475
[Addressee] The Commissioner of the Patent Office
[IPC] H04L 12/54
H04L 12/58
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[Indication of official fee]
[Account No.] 057794
[Official Fee Paid] 21000
[List of Attached Document]
[Kind of Document] Specification 1 copy
[Kind of Document] Drawings 1 copy
[Kind of Document] Abstract 1 copy
[Number of General Power of Attorney] 9303563
[Proofreading] Required

[Kind of Document] Specification

[Title of the present Invention]

COMMUNICATION SYSTEM, COMMUNICATION METHOD OF DISPLAYING INFORMATIONS AND COMMUNICATION PROGRAM USED IN COMMUNICATION SYSTEM,

[Claim(s)]

[Claim 1]

A communication system including : a communication network ; and a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, wherein the communication system includes at least a table which provides at least a retrieval condition and at least a corresponding display method to the at least retrieval condition, so as to enable the terminal device to perform a retrieval to the information under the at least retrieval condition and to display the information in accordance with the at least corresponding display method.

[Claim 2]

The communication system according to the claim 1, wherein said table comprises a key table which defines at least a key object comprising at least one of selected from the group consisting of key words and key marks.

[Claim 3]

The communication system according to the claim 2, wherein said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method, wherein said table includes necessary data for displaying said information in accordance with said at least corresponding display method.

[Claim 4]

The communication system according to any one of the claims 1-3, wherein said table is editable by users.

[Claim 5]

The communication system according to any one of the claims 1-4, wherein said table is transferable through said communication network.

[Claim 6]

The communication system according to any one of the claims 1-5, wherein said information comprises an e-mail.

[Claim 7]

A terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, wherein said terminal device includes : a first function block for performing said retrieval under said retrieval condition with reference to said table ; and a second function block for displaying said information in accordance with said at least corresponding display method.

[Claim 8]

The terminal device according to the claim 7, wherein said table comprises a key table which defines at least a key object comprising at least one of selected from the group consisting of key words and key marks.

[Claim 9]

The terminal device according to the claim 8, wherein said table includes

designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method, wherein said table includes necessary data for displaying said information in accordance with said at least corresponding display method.

[Claim 10]

The terminal device according to the claim 9, wherein said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method by a recorded position.

[Claim 11]

The terminal device according to the claim 9, wherein said table includes designating data which designate necessary data for displaying directly said information in accordance with said at least corresponding display method being recorded on a table.

[Claim 12]

The terminal device according to any one of the claims 9-11, wherein said necessary data including at least any one data of the background display or data of the effective sound or voice replayed for displaying said information in accordance with said at least corresponding display.

[Claim 13]

The terminal device according to any one of the claims 8-12, wherein said information in accordance with said at least corresponding display comprises a title data of said information, each key object comprising at least one of selected from the group consisting of key words and key marks is a title data of each said information.

[Claim 14]

The terminal device according to any one of the claims 7-13, wherein said table is editable by users.

[Claim 15]

The terminal device according to any one of the claims 7-14, wherein said table is transferable through said communication network.

[Claim 16]

The terminal device according to any one of the claims 1-9, said information comprises an e-mail.

[Claim 17]

A method of displaying an information wherein a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, said method comprising the steps of :

performing a retrieval to an information under at least a retrieval condition and displaying said information in accordance with at least a corresponding display method to said at least a retrieval condition wherein said retrieval is performed with reference to at least a table which provides at least a retrieval condition and at least a corresponding display method to said at least retrieval condition, and said information is displayed in accordance with said at least corresponding display method.

[Claim 18]

The method according to the claim 17, wherein said table comprises a key table which defines at least a key object and at least a corresponding display method to said key object wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.

[Claim 19]

The method according to the claim 18, wherein said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.

[Claim 20]

The method according to any one of the claims 17-19 comprising a further step said table is editable by users.

[Claim 21]

The method according to any one of the claims 17-20 comprising a further step wherein said table is transferable through said communication network.

[Claim 22]

The method according to any one of the claims 17-21 comprising a further step provides that said information comprises an e-mail.

[Claim 23]

A computer program of displaying an information wherein a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network, controlling a display of said information in accordance with the received information and reading out a necessary data, said program comprising the steps of :

performing a retrieval to an information under at least a retrieval condition and displaying said information in accordance with at least a corresponding display method to said at least a retrieval condition wherein said retrieval is performed with reference to at least a table which provides at least a retrieval condition and at least a corresponding display method to said at least retrieval condition, and said information is displayed in accordance with said at least corresponding display method.

[Claim 24]

The computer program of displaying an information according to the claim 23, wherein said table comprises a key table which defines at least a key object and at least a corresponding display method to said key object wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.

[Claim 25]

The computer program of displaying an information according to the claim 24, wherein said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.

[Claim 26]

The computer program of displaying an information according to any one of the claims 23-25 comprising a further step wherein said table is editable by users.

[Claim 27]

The computer program of displaying an information according to any one of the claims 23-26 comprising a further step wherein comprising a further step wherein said table is transferable through said communication network.

[Claim 28]

The computer program of displaying an information according to any one of the claims 23-27 comprising a further step wherein said information comprises an e-mail.

[Detail Description of Invention]

[0001]

[Field of the Invention]

The present invention relates to a communication of the information via communication network as e-mails etc., particularly a communication system for controlling of displaying the information in accordance with the received information, and a communication method for displaying informations as well as a communication program used in the communication system.

[0002]

[Background of the Invention]

In recent years, internets, e-mails and net-news have become important communication tools for obtaining, receiving and transmitting any informations and any data for many users.

[0003]

Further, in such communication data such as multimedia-related data including sounds, voices and images could be received and transmitted.

[0004]

For example, the e-mail may include text data with one or more attached-files such as image data. After receipt of the e-mail, the attached-file may be stored in a computer memory by any soft in the received side and/or displayed on a computer display screen with the text data.

[0005]

Further, for example, the multimedia data may include static or dynamic image data. Such multimedia data may often be allocated at designated positions in web-pages in accordance with hypertext markup language (HTML) format for displaying the multimedia data on the web-pages. The web-browser would be the extremely useful tool for access to the web-page at the web-site for downloading a web-page file together with any other file such as an image file, whereby the web-browser may display the other file such as the image file at a designated position on the web-page. The web-browser may also replay voice or sound data in addition to displaying the web-page.

[0006]

The image files and/or the voice or sound files are often transmitted or received together with the text data for displaying the text data with or without image data and replaying voice or sound data.

[0007]

Some of the e-mail softwares and web-browser softwares may have an additional function of controlling or inhibiting the display of informations or data as transmitted from one or more pre-designated addresses. For example, one or more e-mail addresses may be recorded in the mail software to enable the mail software to automatically delete any e-mails transmitted from the recorded e-mail addresses. The web-browser may be adjusted to control or inhibit the display of web-pages for children at one or more pre-designated web-sites in which bad information may be laid open.

[0008]

[Issue to be solved by the Invention]

The conventional communication system has the following disadvantages.

[0009]

Firstly, it is necessary that image files and/or voice or sound files directly are transmitted, without any additional data processings, for displaying the image data and/or replaying the voice or data replay.

[0010]

The multimedia data file such as the image file may generally have large data size which takes a long time for receiving and transmitting the multimedia data file. This time-consuming communication or transmission makes it difficult to reduce the communication cost. Storing such a large size data in the memory device or storage medium needs that the memory device or storage medium has a sufficiently large capacity.

[0011]

Assuming that one or more terminal devices in the communication system are used for e-mail communications, the communications with text data only with no image file nor voice or sound file would be desirable in consideration of limited memory capacity and limited data transmission rate. The conventional communication system is suitable for transmitting or receiving small size data including text data only. It is, therefore, desirable to improve the conventional communication system in view of transmitting or receiving large size data including not only the text data but also additional multimedia data such as image or voice data.

[0012]

Secondly, even if plural informations including multimedia data as plural images are to be displayed on the same display concurrently, the plural images are separately downloaded at every informations.

[0013]

In order to reduce the number of necessary downloading times for the image files, the web-browser is adopted to store downloaded image files into a cache-memory and then read the image files out of the cache-memory for displaying the images. This method for reading the image files out of the cache-memory is effective but only for the same file at the same address over the network. If the same image files are recorded at different web-sites, plural times of downloading operations are necessary. In any events, those files are once downloaded to be stored in the cache-memory at least one time.

[0014]

The conventional communication system does not allow that another terminal device of a counter-party displays and/or replays the multimedia data including image and/or voice data designated by the user, without user's operation of downloading the multimedia data.

[0015]

Thirdly, the conventional communication system is unable to arrange or adopt the received respective informations for realizing the desirable display.

[0016]

Namely, the conventional communication system is capable of simply deciding the issue of whether or not each information is displayed. This decision is made according to the sender's address. Thus, it is difficult for the conventional system to realize and display the desirable display in view of the contents of the received information.

[0017]

Even if the urgent mail is received and simply displayed, it could not to display any mark about priority or alert the priority so that then the subscriber or user may be not aware of this mail being urgent. He or she will be aware of the urgency upon viewing the mail description to the effect that this mail is "urgent".

[0018]

Further, the conventional communication system and the conventional

terminal device are unable to notify the user of the gist of the e-mail contents such as "congratulation" or "get married" by automatically producing a predetermined sound or displaying a predetermined mark.

[0019]

Accordingly, it is a first object of the present invention to provide a novel communication system, and a communication device used in the communication system as well as a communication program and a communication method for controlling a display of informations free from the above problems for allowing a terminal device of a counter-party to display and/or replay multimedia data including image and/or voice or sound data which have been designated by the user, without any additional operation of downloading the multimedia data such as image data to be displayed and/or voice or sound data to be replayed.

[0020]

It is a second object of the present invention to provide a novel communication system, and a communication device used in the communication system as well as a communication program and a communication method for controlling a display of informations free from the above problems to be capable of automatically switching or selecting and displaying the respective information displayed on the user's terminal to any appropriate display operations adopted in the information.

[0021]

[Means to be solved by the Invention]

For achieving such the object, the present invention provides a communication system including: a communication network ; and a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, wherein the communication system includes at least a table which provides at least a retrieval condition and at least a corresponding display method to the at least retrieval condition, so as to enable the terminal device to perform a retrieval to the information under the at least retrieval condition and to display the information in accordance with the at least corresponding display method.

[0022]

The communication system according to the claim 2 of the present invention provides that said table comprises a key table which defines at least a key object comprising at least one of selected from the group consisting of key words and key marks.

[0023]

The communication system according to the claim 3 of the present invention provides that said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method, wherein said table includes necessary data for displaying said information in accordance with said at least corresponding display method.

[0024]

The communication system according to the claim 4 of the present invention provides that said table is editable by users.

[0025]

The communication system according to the claim 5 of the present invention provides that said table is transferable through said communication network.

[0026]

The communication system according to the claim 6 of the present invention provides that said information comprises an e-mail.

[0027]

The terminal device according to the claim 7 of the present invention connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, wherein said terminal device includes : a first function block for performing said retrieval under said retrieval condition with reference to said table ; and a second function block for displaying said information in accordance with said at least corresponding display method.

[0028]

The terminal device according to the claim 8 of the present invention provides that said table comprises a key table which defines at least a key object comprising at least one of selected from the group consisting of key words and key marks.

[0029]

The terminal device according to the claim 9 of the present invention provides that said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method, wherein said table includes necessary data for displaying said information in accordance with said at least corresponding display method.

[0030]

The terminal device according to the claim 10 of the present invention provides that said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method by a recorded position.

[0031]

The terminal device according to the claim 11 of the present invention provides that said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method being recorded on a table.

[0032]

The terminal device according to the claim 12 of the present invention provides said necessary data including at least any one data of the background display or data of the effective sound or voice replayed for displaying said information in accordance with said at least corresponding display.

[0033]

The terminal device according to the claim 13 of the present invention provides said information in accordance with said at least corresponding display comprises a title data of said information, each key object comprising at least one of selected from the group consisting of key words and key marks is a title data of each said information.

[0034]

The terminal device according to the claim 14 of the present invention provides that said table is editable by users.

[0035]

The terminal device according to the claim 15 of the present invention provides that said table is transferable through said communication network.

[0036]

The terminal device according to the claim 16 of the present invention provides that said information comprises an e-mail.
[0037]

A method of displaying an information according to the claim 17 of the present invention provides a method wherein a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, said method comprising the steps of :

performing a retrieval to an information under at least a retrieval condition and displaying said information in accordance with at least a corresponding display method to said at least a retrieval condition wherein said retrieval is performed with reference to at least a table which provides at least a retrieval condition and at least a corresponding display method to said at least retrieval condition, and said information is displayed in accordance with said at least corresponding display method.

[0038]

The method according to the claim 18 of the present invention provides wherein said table comprises a key table which defines at least a key object and at least a corresponding display method to said key object wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.
[0039]

The method according to the claim 19, wherein said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.

[0040]

The method according to the claim 20 comprising a further step said table is editable by users.

[0041]

The method according to the claim 21 comprising a further step wherein said table is transferable through said communication network.
[0042]

The method according to the claim 22 comprising a further step provides that said information comprises an e-mail.
[0043]

A computer program of displaying an information according to the claim 23 provides wherein a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, comprising the steps of :

performing a retrieval to an information under at least a retrieval condition and displaying said information in accordance with at least a corresponding display method to said at least a retrieval condition wherein said retrieval is performed with reference to at least a table which provides at least a retrieval condition and at least a corresponding display method to said at least retrieval condition, and said information is displayed in accordance with said at least corresponding display method.
[0044]

The computer program of displaying an information according to the claim 24 wherein said table comprises a key table which defines at least a key object and at

least a corresponding display method to said key object wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks. [0045]

The computer program of displaying an information according to the claim 25 wherin said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method wherein said at least key object comprise at least one of selected from the group consisting of key words and key marks.

[0046]

The computer program according to the claim 26 comprising a further step wherin said table is editable by users.

[0047]

The computer program according to the claim 27 comprising a further step wherein comprising a further step wherein said table is transferable through said communication network.

[0048]

The computer program according to the claim 28 comprising a further step wherein comprising a further step provides that said information comprises an e-mail.

[0049]

[Mode for carrying out the Invention]

Preferred embodiments according to the present invention will be described in detail with reference to the accompanying drawings.

[0050]

A novel communication system of the present invention allows that informations including the received e-mails as shown in Fig. 7 are displayed under automatic control in accordance with a display method pre-designated depending on the informations.

[0051]

For example as shown in Fig. 7, if a predetermined mark, Hart-Mark is described in the text of the e-mail or in the title thereof, the predetermined mark, Hart-Mark is displayed as an image on the display screen with or without scrolling the display screen.

[0052]

Not only the sender's address but also the text data and title of the e-mail may be browsed and retrieved to select one of the plural display measures for displaying the informations appropriately.

[0053]

Although the following descriptions will be made by taking an example of displaying the e-mail with or without one or more attached files, but the descriptions would, of course, be applicable to displaying other contents such as net-news and web-pages of the internet.

[0054]

FIG. 1 is a block diagram illustrative of a communication terminal device 100 for transmitting and receiving an information through the communication network used in the novel communication system in a first embodiment in accordance with the present invention. FIG. 2 is a schematic perspective view illustrative of an example of the terminal device 100, to which the present invention is applicable.

[0055]

A novel terminal device 100 includes a central processing unit CPU10 for

controlling of each features, a display unit 20 for displaying the various informations such as e-mail, an operation unit 30 for enabling the user to operate the terminal device 100 under the control of the central processing unit 10, a communication unit 40 for transmitting and receiving the informations through the communication network, and a memory which includes a random access memory 50 for mainly storing the data, to which the central processing unit 10 is accessible for operation and a read only memory 60 for storing mainly one or more programs to be implemented for operation of the central processing unit 10.

[0056]

The terminal device 100 may include any communication terminal devices and any information terminal devices of mobile and non-mobile types and wire-less and wired types. The information terminal devices may, for example, be any installed type personal computers, any portable type personal computers and any personal digital assistants. The communication terminal devices may, for example, be any mobile phones and any personal handy-phone systems having additional communication functions for e-mail communication services and information providing services such as i-mode.

[0057]

The display unit 20 may be any available display devices capable of displaying any characters and any images, for example, a liquid display panel of monochrome type or color type. The operation unit 30 may comprise any available input devices such as key boards, key buttons, and input buttons for any necessary operations including designation of the information to be displayed. The communication unit 40 performs transmitting and receiving e-mails with or without one or more attached files as well as connecting the device to any network system such as the inter-net.

[0058]

The random access memory 50 may comprise a semiconductor memory for temporary storing data related to operations of the central processing unit 10 and optionally personal data for user. Optionally, an entirety or a part of the functions of the random access memory 50 of FIG. 1 may be allocated to any available auxiliary storage device such as a hard disk if the device 100 is any installed type personal computers and any portable type personal computers.

[0059]

With reference to FIG. 2, the above novel terminal device 100 includes the display panel 20, the optional unit 30 and the antenna 41. Further the above novel terminal device 100 as shown in Fig. 2 may be the wire-less portable type personal computer with the antenna 41. The above terminal device may be used in any available communication network systems, for example may have any available communication interface such as modem or terminal adapter to the existent wired communication lines.

[0060]

A communication network system shown in FIG. 3 is one example of the available communication network systems in a first embodiment in accordance with the present invention.

[0061]

As shown in Fig. 3, the following description will be made, assuming that the terminal device 100 may transmit or receive the informations through the general network system such as the inter-net or e-mails. Further, the terminal device 100 has not only the above conventional functions but also novel functions described below in connection with the present invention, whilst the wired portable personal computer 110

and the wired installed type personal computer 120 have the above conventional functions only.

[0062]

As shown in Fig. 3, data communications are made between the base station 210 and the terminal devices 100. An inter-net 200 is connected to a base station 210 and connected to each provider 220. Each of the base station 210 and inter-net service providers 220 may have a server system for accumulating and distributing e-mails. Data communications among the base station 210 and the inter-net service providers 220 are made through the inter-net 200. The wired portable personal computer 110 and the wired installed type personal computer 120 has the conventional functions of connecting to the internet and receiving and sending the e-mails with or without one or more attached files through each providers 220.

[0063]

FIG. 4 is a flow chart illustrative of sequential operations of displaying the received e-mail by the terminal device 100 in a first embodiment in accordance with the present invention.

[0064]

FIG. 5 is a diagram illustrative of an example of e-mail 70. With reference to FIG. 4, the e-mail 70 may include a title 71, a sender's e-mail address 72, a receiving date 73 and a content 74.

[0065]

Upon receipt of the e-mail 70, the wire-less terminal devices 100 according to the embodiment judge whether the received e-mail includes one or more pre-designated key words or key marks. The key word table 80 may include one or more predetermined key words and/or one or more key marks as well as predetermined display operations correspondent to the predetermined key words or key marks and performs the corresponding operations.

[0066]

FIG. 6 is a diagram illustrative of one example of key word tables 80 used in the first embodiment in accordance with the present invention.

[0067]

With reference to FIG. 6, a key word table 80 includes a list of the predetermined key words 81 and operations 82 of displaying the e-mail when each key word 81 includes in the e-mail 70. The operations 82 of displaying the e-mail include designating a template of the display e-mail, the background images and effective sounds data as a music and effective sounds etc. replayed with e-mail.

[0068]

The wire-less terminal device 100 may receive e-mails transmitted through the network system of FIG. 3 from the wire-less terminal device 100, the wired portable personal computer 110 and the wired installed type personal computer 120. The wire-less terminal device 100 has the antenna 41 which receives the radio wave transmitted from the base station 210. The radio wave is converted by the antenna 41 to an analog signal and the analog signals are then demodulated by the communication unit 40 into digital data. The demodulated digital data are transmitted to the central processing unit 10. The digital data are then stored in the random access memory 50 as e-mail data shown in FIG. 5. The user of the terminal device 100 operates the operation unit 30 to display the e-mail on the display unit 20.

[0069]

The wire-less terminal device 100 performs the operations of displaying the

received e-mail as shown in FIG. 4. In a step 401, the user operates the operation unit to designate one of the e-mails 70. In a step 402, in accordance with the computer program, the central processing unit 10 retrieves one or more predetermined key words or key mark used in the e-mail 70 with reference to the key word table 80.

[0070]

The key words or the key mark may be retrieved from the title 71 as a data of the retrieve object on e-mail 70. The data described in the title 71 is short and shows a content of the e-mail 70 so that it is appropriate for the retrieve object.

[0071]

In this way the wire-less terminal device 100 performs that the central processing unit retrieves a list data of the title 71 and one or more predetermined key words or key mark 81 with reference to the key word table 80 stored in the random access memory 50 when opening and displaying the e-mail.

[0072]

If no key word nor key mark 81 with the list data of the title 71 is included in the e-mail, then in a step 406, in accordance with the computer program, the central processing unit controls the display unit to display the e-mail in accordance with the conventional or normal measure.

[0073]

In a step 403, if any one of the key words and/or key mark 81 are included in the e-mail, then in a step 404, the central processing unit further retrieves with reference to the key word table 80 and read out the operations 82 recorded on displaying e-mail in accordance with the corresponding each key words 81. In a step 405, in accordance with the computer program, the central processing unit 10 controls the display unit to display the e-mail 70 in accordance with the operations 81, the corresponding background image data and the effective sound data.

[0074]

FIG. 7 is a diagram illustrative of one example of the displayed e-mail 70 of FIG. 5 in the wire-less terminal device 100 in a first embodiment in accordance with the present invention. The title 71 of the e-mail 70 includes the hart-mark which is matched with the key mark 81 listed on the 4th line of the key word table 80. Thus, the operation corresponded to the hart-mark as the key word 81 is carried out.

[0075]

The e-mail as designated by the user is displayed as illustrated in FIG. 6. The title 71 of the e-mail 70 includes the hart-mark which is the key mark listed on the key word table 80. The background image 4 and the effective sound 4 correspond to the hart-mark as key mark 80. Thus, the e-mail is displayed with the background image 4 and replaying the effective sound 4. The background image 4 and the effective sound 4 have been read out of the random access memory 50. In the example of FIG. 7, the background image 4 corresponds to the hart-mark as key mark 80.

[0076]

As the above mentioned, the terminal device 100 displays appropriately the e-mail with the background image and the effective sound which are correspondent to the key word or the key mark in accordance with the key word table.

[0077]

As described above, the extent of the retrieval may not be limited to the title 71 of the e-mail. The extent of the retrieval may be not only the title of the e-mail but also the text 74 of the e-mail 70.

[0078]

As to the data based on the sender's address 72 and/or the mail receiving date 73, it is not limited in use for the key words but also the other retrieval method corresponding to the respective data forms. Namely, it is also possible that the retrieval may be made based on the sender's address and/or the mail receiving date, so that a background image and an effective sound, which are correspondent to the retrieved address and/or date, are read out of the table stored in the random access memory, whereby the e-mail is displayed with the corresponding background image and the corresponding effective sound.

[0079]

The above image data and the effective sound data corresponding to the respective key word or key mark as a operation 82 on displaying e-mail may on the key word table 80 optionally be stored in the form of the image file and the effective sound file in the memory such as a hard disk of the terminal device 100, wherein the image file and the effective sound file designated in the list of the operation 82 corresponding to the key word 81 may be read out by designating directly paths thereof.

[0080]

The key word table 80 may be edited, changed or revised or modified in the user's discretion. The key objects such as the key words or the key marks 81 set on the key word table 80 for setting the operations on displaying the information and the display operations 82 on displaying the c-mail in correspondence with the respective key word 81 may be rewritten by the user through operating the operation unit. Namely, the user enables to make the key table 80 in his or her discretion.

[0081]

Namely, the key word table 80 may be edited and exchangeable to other device. It is, of course, possible to set the common key word table to plural different users for the plural different terminal devices through the communication network as Internet and c-mails.

[0082]

For example, it is also possible that one or more prepared key word tables 80 may be opened on a web-site of the internet established by an administrator, so that the users may have accesses from the terminal device 100 to the web-site for downloading the key word tables 80 freely. Contrary to the above, it is also possible that the user may send the e-mail with an attached file including his or her prepared one or more key word tables 80 to other user. Alternatively, the user may open the key word tables on his or her allocated web-site established by the administrator, so that the other user may have accesses to the web-site for downloading the key word tables.

[0083]

A plural user have the common key word table 80 so that the displayed images and replayed melodies of the e-mail communications are common between them so that the senders of the e-mail could send it after the confirmation of the operations on displaying the c-mail on the side of the receivers. Therefore, it is unnecessary to attach the key word table to the e-mail for reducing the communication traffic.

[0084]

Then the second embodiment of the present invention is described in the followings.

[0085]

FIG. 8 is a flow chart illustrative of sequential operations of displaying the received e-mail by the terminal device 100 of FIG. 1 in a second embodiment in accordance with the present invention. Further, the structure of the terminal device 100

is the same one as shown in the FIG. 1.
[0086]

According to the second embodiment of the present invention, the image data and the effective sound data corresponding to the respective key word or key mark are directly stored in the memory in the data 82 on displaying the e-mail in the key word table 80a. FIG. 9 is a diagram illustrative of a key word table 80a in a second embodiment in accordance with the present invention. Contrary to the above, in the first embodiment the stored position of the image file etc. on the operations 82 may be designated.

[0087]

According to the second embodiment the key word table 80a includes all of the necessary data for displaying the background image and replaying the effective sounds in displaying the e-mail. It is unnecessary to have accesses to the outside image data etc.. The display may be carried out by access to the key word table 80a only.
[0088]

Therefore, it is more preferred than the above first embodiment that the key word table 80a could be changed with each other for users or the user may open the key word tables on his or her allocated web-site established by the administrator, so that the other user may have accesses to the web-site for downloading the key word tables.
[0089]

As shown in FIG. 8, in the processing the e-mail of the present embodiment in a step 803, if any one of the key words and/or key mark designated are included in the e-mail, then in a step 804, the central processing unit 10 further retrieves and read out the corresponding data 82a from the key word table 80a. In a step 805, the central processing unit 10 controls the display unit to display the e-mail in accordance with the corresponding background image data and the effective sound data.
[0090]

According to the communication system of the above each embodiment, the terminal device 100 has a first function block of managing the one or more key word tables. The terminal device also has a second function block of retrieving one or more key words from the e-mail with reference to the key word table. The terminal device also has a third function block of displaying the e-mail with the background image corresponding to the retrieved key word with or without replaying the effective sound corresponding to the retrieved key word. The terminal device also has a fourth function block of transmitting and receiving the key word table through the existent communication network. The above first to fourth function blocks may be realized by the hardware or the software. For example, a computer program including the above first to fourth functions may be loaded to the memory of the device. This computer program may be stored in a magnetic disk, a semiconductor memory or any other available storage medium 90. The computer program is loaded to the memory, to which the processing unit may access directly, so that the processing unit performs the operations of the above functions under the control of the computer program.
[0091]

This computer program could be provided as one unit for users of the terminal device 100.

[0092]

In place of using the storage medium 90 of the terminal device 100, the computer program may be open on the server established by the administrator, so that the user may have the access to the server through the communication network for

downloading the computer program freely.
[0093]

A broad used conventional communication terminal devices and any information terminal devices, for example, personal computers, any portable type personal computers and any personal digital assistants include a display unit 20 capable of displaying any images on a liquid display panel, a operation unit 30 for necessary operations as inputting buttons by users, a communication unit 40 for communicating through any network system, a random access memory 50 for storing various information and also the information processing functions for performing the each computer program. The above-described novel computer program realizing the functions of automatically switching or selecting display operations are downloaded and performed so that used as a terminal device 100 of the embodiment of the present invention.

[0094]

Although the invention has been described above in connection with several preferred embodiments therefor, it will be appreciated that those embodiments have been provided solely for illustrating the invention, and not in a limiting sense. Numerous modifications and substitutions of equivalent materials and techniques will be readily apparent to those skilled in the art after reading the present application, and all such modifications and substitutions are expressly understood to fall within the true scope and spirit of the appended claims.

[0095]

[Effect of the invention]

According to the he above-described novel communication system, the following effects are achieved.

[0096]

At first, the above-described novel communication system allows a terminal device of a counter-party to display and/or replay multimedia data including image and/or voice or sound data which have been designated by the user, without any additional operation of downloading the multimedia data, so as to realize desirable high speed communications of the e-mail including the multimedia data such as image data to be displayed and/or voice or sound data to be replayed and being free of any serious problem with communication-traffic delay.

[0097]

Secondly, the above-described novel communication system arranges or adopts received respective informations for realizing the desirable display on a single display screen.

[0098]

Thirdly, the above-described novel communication system is capable of automatically switching or selecting display operations via automatic detection of one or more designated key words from text or titles of the e-mails. For example, it is capable of automatically controlling the background display or the effective sound or voice in accordance with character-only-descriptions.

[0099]

Fourthly, the above-described novel communication system includes a display-operation-defining table which defines the display operation, wherein the display-operation-defining table is programmable by user through any available interface in order to optionally define the display-operations in the user's discretion.

[0100]

The above-described novel communication system includes a display-operation-defining table which defines the display operation, wherein the display-operation-defining table is inter-exchangeable between communication devices through a communication network such as internet or e-mails. The above-described novel communication system also utilizes a display-operation-defining table which defines the display operation, wherein the display-operation-defining table common to plural users.
 [Brief Description of Drawing]
 [FIG.1]

FIG. 1 is a block diagram illustrative of a communication terminal device in a first embodiment in accordance with the present invention.
 [FIG. 2]

FIG. 2 is a schematic perspective view illustrative of an example of the terminal device, to which the present invention is applicable.
 [FIG.3]

FIG. 3 is a diagram illustrative of a network structure of a communication system in a first embodiment in accordance with the present invention.
 [FIG. 4]

FIG. 4 is a flow chart illustrative of sequential operations of displaying the received e-mail by the terminal device of a first embodiment in accordance with the present invention.
 [FIG. 5]

FIG. 5 is a diagram illustrative of an example of e-mail.
 [FIG. 6]

FIG. 6 is a diagram illustrative of one example of key word tables used in the first embodiment in accordance with the present invention.
 [FIG. 7]

FIG. 7 is a diagram illustrative of the e-mail of FIG. 5 displayed in a terminal device according to the first embodiment in accordance with the present invention.
 [FIG. 8]

FIG. 8 is a flow chart illustrative of sequential operations of displaying the e-mail received by the terminal device in a second embodiment in accordance with the present invention.
 [FIG.9]

FIG. 9 is a diagram illustrative of a key word table in a second embodiment in accordance with the present invention.
 [Description of symbols]

100...a terminal device	10...CPU	20...a display unit	30...an operation unit
40...a communication unit	41...antenna	50...RAM	60...ROM
70...e-mails	71...a title	72...a sender's e-mail address	
73...a receiving date	74...a content	80...a key word table	
81...a key word	82...operations of displaying the e-mail		
80a...a key word table	82a...operations of displaying the e-mail		
110...a wired portable personal computer			
120...a personal computer	200...an inter-net		
210...a base station	220...a provider		

[Kind of Document] Abstract

[Abstract]

[Object] An object of the present invention is to provide a novel communication system for allowing a terminal device of a counter-party to display and/or replay multimedia data including image and/or voice or sound data which have been designated by the user, without any additional operation of downloading the multimedia data.

[Means] The present invention provides a communication system including : a communication network ; and a plurality of terminal device connectable to the communication network for transmitting and receiving an information through a communication network and controlling a display of said information in accordance with the received information, wherein the communication system includes at least a table which provides at least a retrieval condition and at least a corresponding display method to the at least retrieval condition, so as to enable the terminal device to perform a retrieval to the information under the at least retrieval condition and to display the information in accordance with the at least corresponding display method and that said table comprises a key table which defines at least a key object comprising at least one of selected from the group consisting of key words and key marks, said table includes designating data which designate necessary data for displaying said information in accordance with said at least corresponding display method wherein said table includes necessary data for displaying said information in accordance with said at least corresponding display method, said table is editable by users and said table is transferable through said communication network.

[Selected Drawing] FIG.1

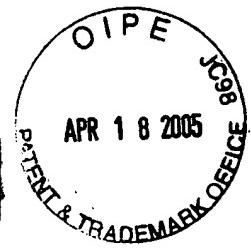


FIG. 1

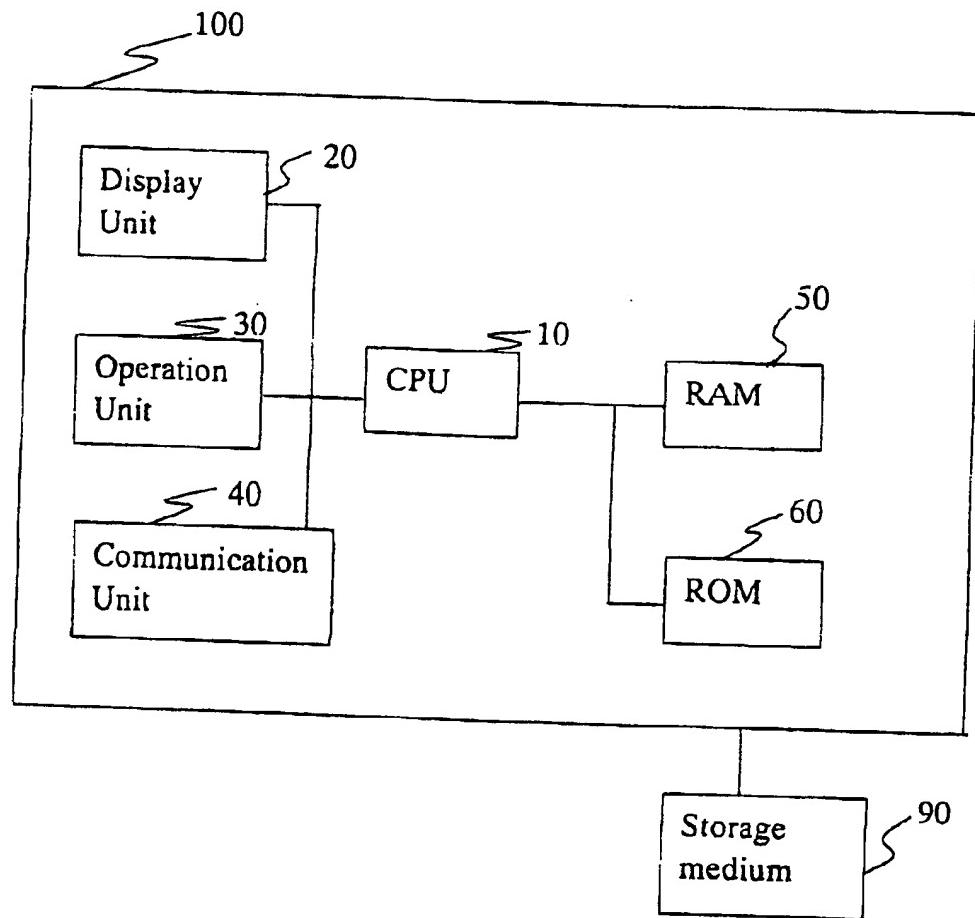




FIG. 2

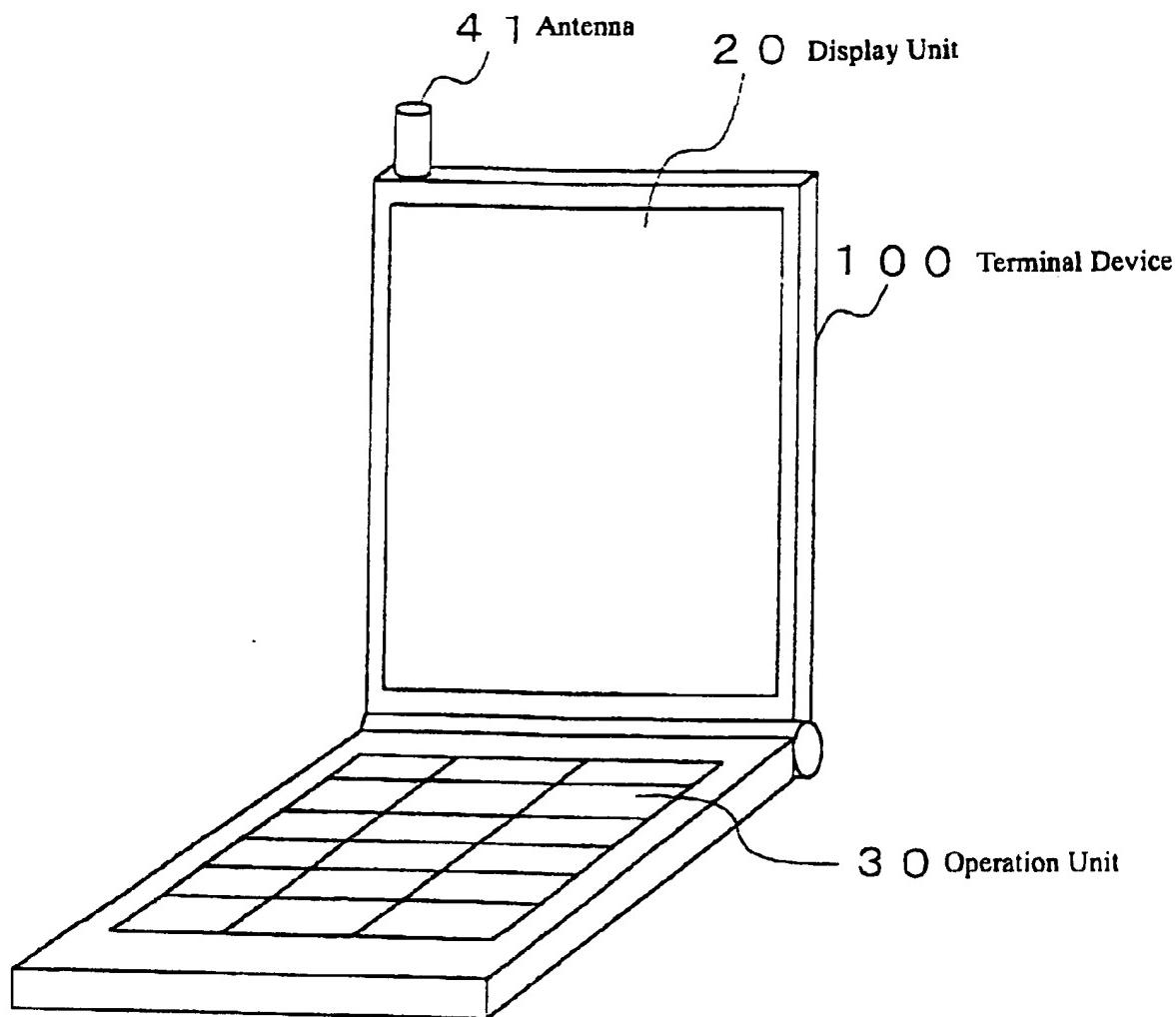




FIG. 3

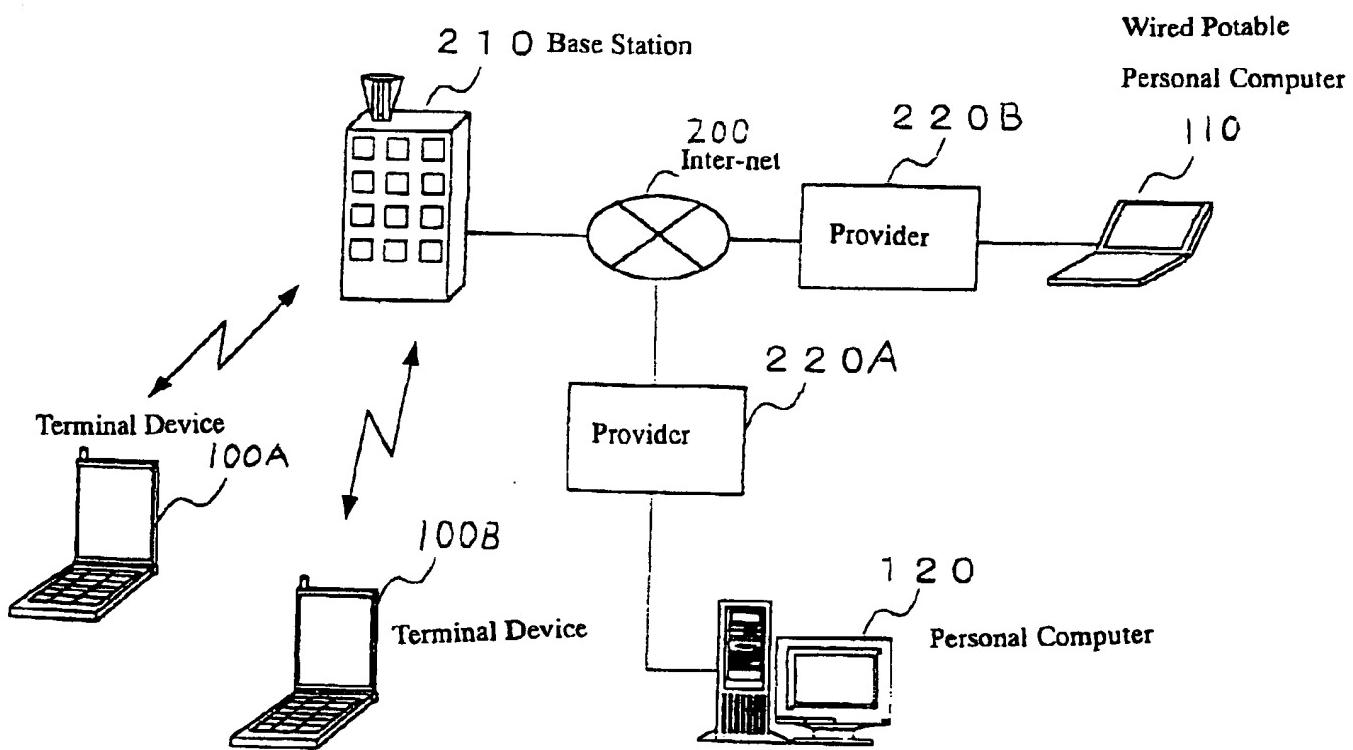




FIG. 4

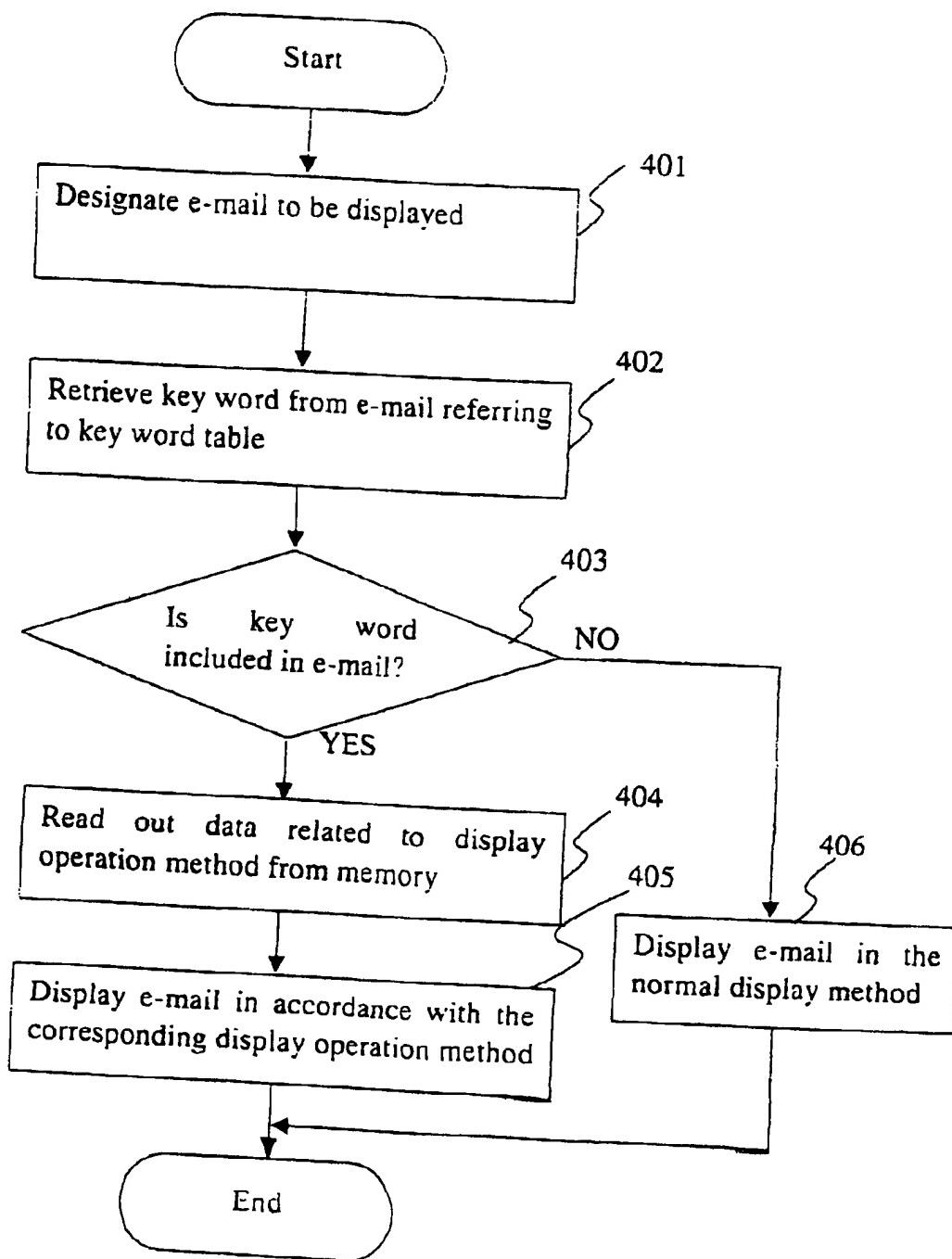




FIG. 5

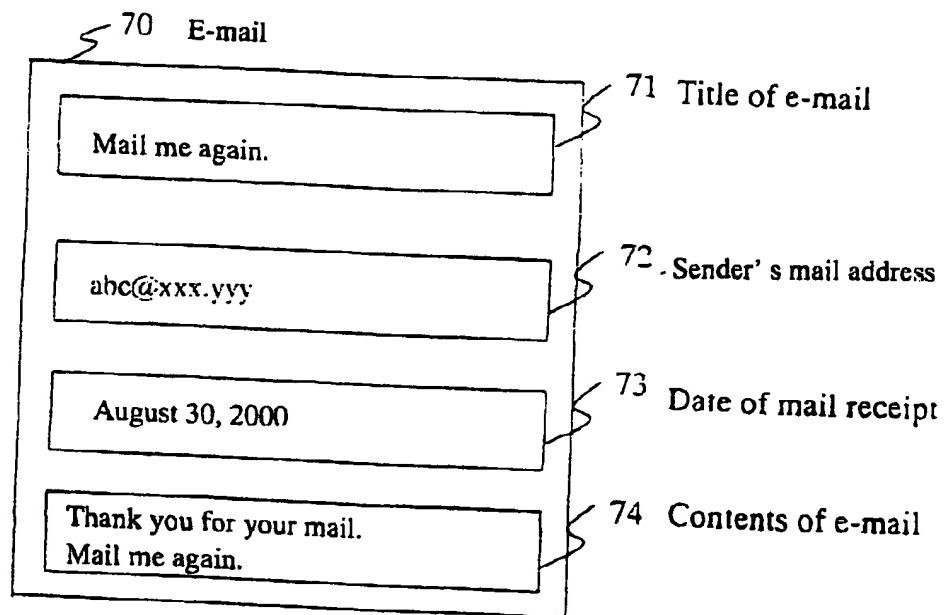




FIG. 6

80 Key Word Table

Key Words	Operation of display e-mail	
	Background image	effective sound
Urgent	image 1	effective sound 1
Congratulation	image 2	effective sound 2
Get married	image 3	effective sound 3
Hart-Mark	image 4	effective sound 4

81
Key Words

82a Operations



FIG. 7

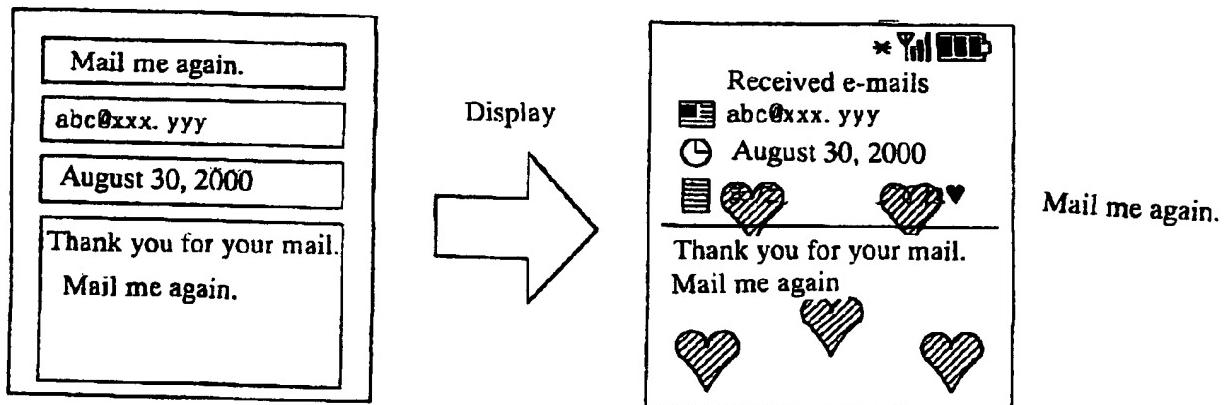




FIG. 8

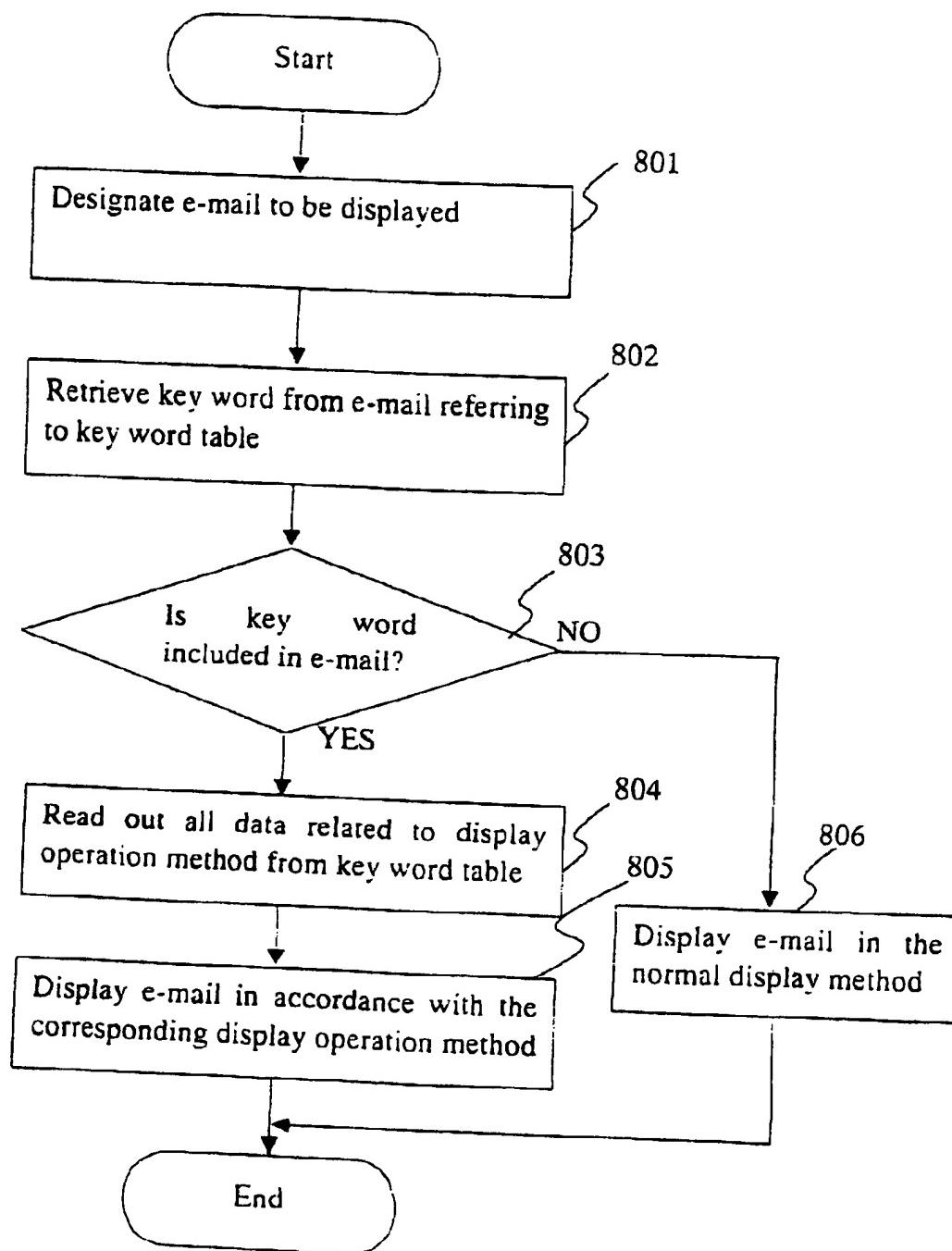




FIG. 9

80a Key Word Table

Key Words	necessary data for displaying e-mail	
	Background image	effective sound
Urgent	image data 1	sound data 1
Congratulation	image data 2	sound data 2
Get married	image data 3	sound data 3
Hart-Mark	image data 4	sound data 4

81 Key Words

82a Operations

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